

Annual Report to R.I. Rivers Council

Submitted by:

**Wood Pawcatuck Watershed Association
as Pawcatuck Watershed Council**

(by electronic mail to mkerr@gso.uri.edu)

January to October 31, 2002

Executive Summary

The Wood-Pawcatuck Watershed Association (WPWA) is a 501(c)(3) conservation organization formed in 1983, and designated Watershed Council for the Pawcatuck by the RI Rivers Council in 1999. The WPWA campus is located on the upper Wood River in Hope Valley, where its Board of Trustees meets monthly, and from where a full-time executive director, program director, one or two summer interns, and approximately 90 volunteers, conduct their work.

Through a combination of science, recreation, and education, WPWA works year round to achieve its mission to promote and protect the integrity of the lands and waters of the Pawcatuck Watershed. For the past nine months, WPWA has been engaged in numerous scientific studies, including a quantitative brook trout analysis, a transient water quality monitoring program utilizing electronic underwater data loggers, a study of benthic macro invertebrates, stream flow monitoring, and chemical analysis of water quality in streams and ponds. WPWA interns also explored the issue of aquatic herbicide use in the watershed between spring and fall.

WPWA continues to be a leader in the area of education, outreach, and advocacy, logging hundreds of hours of classroom participation, field trips, and teacher training programs, in addition to public education programs aimed at property owners and municipal officials. WPWA has participated in and made recommendations during subdivision and zoning hearing in several watershed towns. Finally, as a player in the watershed approach to environmental management in the Pawcatuck, WPWA remains a strong presence in numerous inter-agency collaborations at the state and regional level, on issues such as water supply allocation; anadromous fish passage, greenspace protection, and surface and groundwater quality.

In terms of recreational river enjoyment, WPWA offers numerous outdoor programs to get participants on river trails and hiking trails: a Source to Sea paddle in June, learn-to-fish programs in July, weekly summer river exploration programs for camp groups from around the state; and of course the occasional canoe trips and hikes throughout the watershed as suggested in our canoe and hiking guides. Moreover, WPWA engages in long-term planning for improved public access and recreational use of river corridors. This year, WPWA received a commitment state enhancement funds to improve an established Wood River access, as well as a private donation of land to establish a new access to the Ashaway River. With RI Trails Advisory Committee funds, WPWA and local scout troops worked to improve two additional access areas, and clear river trail obstructions.

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I. Organizational Status

The Wood-Pawcatuck Watershed Association (WPWA) is a 501(c)(3) conservation organization formed in 1983. WPWA is governed by a board of trustees, and employs a full-time executive director and a full time program director, as well as one or two part-time summer interns. WPWA's volunteer work force totals around 90 throughout the year. Paid membership includes approximately 820 individuals, families, and businesses throughout the watershed, the State of RI, and the United States.

In 1999, WPWA was designated Watershed Council for the Pawcatuck by the RI Rivers Council, pursuant to RIGL 46-28-8, giving it legal standing to advocate on behalf of the Pawcatuck Watershed resource.

WPWA's annual budget for the current fiscal year 2002 is \$134,000. WPWA's restricted assets, including buildings, property, and endowment funds, combine to total in excess of \$300,000. The WPWA campus is situated on the banks of the upper Wood River at Barberville Dam, Hope Valley.

II. Summary of Activities, January – October 2002

a. Scientific Monitoring:

Quantitative Brook Trout Analysis – under the leadership of Dr. Saul Saila, and with partial funding from The Nature Conservancy, WPWA conducted a study of brook trout habitat in the Queens River and lower order streams in the upper Wood River system. Two summer interns, and ten volunteers provided staff support.

Transient Water Quality Monitoring – again with Dr. Saul Saila, and using electronic data loggers on loan from EPA, WPWA conducted short-term transient monitoring of water quality at various locations in the Queens River system, as well as Locustville Pond pre- and post- herbicide treatment, and in Canonchet Brook.

TMDL Studies Pawcatuck Estuary – working with RIDEM Office of Water Resources, WPWA, led by volunteer David Luce, participated in initial monitoring studies for TMDL's using electronic data loggers provided by RIDEM to assess dissolved oxygen, chlorophyll, conductivity, pH, temperature, and depth.

Benthic Macro Invertebrate Study – WPWA conducted a pilot macro invertebrate study this summer, using 3 local teachers as volunteers in the field to collect aquatic insects, which were then brought to our lab for family identification. Results will be posted on our website by year's end.

Stream Flow Monitoring – Fourteen volunteers conducted stream flow measurements at 13 lower order streams in the watershed, and measurements of chemical parameters including dissolved oxygen, temperature, bacteria, pH, and nutrients at 15 sites. Seven of fifteen sites were co-sponsored by the Hopkinton Conservation Commission, North Stonington Citizen Land Alliance, and The Nature Conservancy. Chemical monitoring results for 2001 will be posted on our website by December 2002. Stage/discharge relationship and seasonal stream flows for 2002 will be posted by January 2003. Data from 2002 chemical analysis will be posted as soon as it is available from URI Watershed Watch.

URI Watershed Watch – Twenty-five volunteers monitored 15 lakes, ponds, and river impoundments in the Pawcatuck Watershed on behalf of WPWA for URI Watershed Watch. Included were secchi disc measurements for depth, also temperature, dissolved oxygen, chlorophyll, pH, bacteria, and nutrients were measured. Chemical analysis was done at URI Cooperative Extension Watershed Watch laboratories. Expect 2002 results to be posted in late 2003.

Aquatic Herbicide Assessment – Brown University interns working with WPWA conducted an historical assessment of the use of aquatic herbicides in watershed ponds, to determine the extent of herbicide use, to investigate the reasons for its use, determine its effects on pond ecosystems, and evaluate the current herbicide permitting process. With regard to improving that process, the students presented their findings and recommendations to RIDEM in July.

b. Education, Outreach, and Advocacy

Watershed Education – WPWA educator Denise Burgess interacted with over 320 primary and secondary school students throughout the watershed and beyond. In addition she provided several teacher training workshops for 18 educators, participated in as a Science Mentor for the GEMS-Net program; and continued supporting past participants of AWESome Workshops. Burgess serves on the board of the RI Environmental Education Association, and gives annual presentations at the association's yearly environmental education conferences.

For homeowners, WPWA hosted a Well Water Workshop in partnership with URI Cooperative Extension. Several presentations were given to community groups, such as the Richmond Senior Citizens and Chariho Rotary Club. In April, WPWA director Lori Urso narrated a bus tour of the watershed's historic mill villages for the RI Historical Preservation and Heritage Commission statewide conference.

Outreach / Advocacy – In the Municipal realm, WPWA has worked with the Washington County Regional Planning Council to keep municipalities informed on the extent of this year's drought, discuss land acquisition, and further the goals of the Pawcatuck Watershed Action Plan. WPWA has been actively involved in an extensive zone change proposal in the Town of Richmond enterprise zone, as well as a proposed rezone to light industrial along the river corridor in Westerly. We participated in subdivision hearings for a Carolina proposal that was ultimately defeated. WPWA worked with the Hopkinton Conservation Commission on water quality issues. In the coming year, WPWA will become more closely involved in working with the Towns of Hopkinton, Richmond, and Charlestown on revitalization plan implementation in Hope Valley and Shannock Village, and a wastewater management district for Hopkinton, Richmond and Exeter.

Collaborative Partnerships - WPWA maintains a strong presence within numerous state-level collaborations, including the RI Watershed Approach Coordinating Council, the RI Water Resources Board Water Allocation Program Development Committee, the Water Use Stakeholder Group, and the RI Trails Advisory Committee. Regionally, WPWA is represented on the Washington County Regional Planning Council, the Westerly Town Council, the Richmond Rural Preservation Land Trust, the Richmond Planning Board, and the Hopkinton Land Trust.

WPWA and The Arts - this fall, WPWA offered a six-week course entitled Drawn To Nature. The program, team-taught by arts educators and WPWA members Ana Flores and Susan Masket, focused on the integration of arts and sciences in the natural world. During the summer, WPWA hosted its annual benefit art auction at the historic Carolina Mill, to showcase regional artists, and raise funds for the association.

Publications – our *Wood Pawcatuck River Guide* map for canoeists and kayakers was revised and reprinted this year. WPWA continues to sell this map, as well as our *Walks in the Watershed* hiking guide. Our newsletter, *Watershed*, continues to be distributed quarterly with a circulation of approximately 1000.

Conference and Learning Center – the WPWA campus on Arcadia Road in Hope Valley continues to undergo major capital renovations. The ultimate result will be a public conference facility and resource library. This year, we have focused on getting the exteriors of our office and program buildings in shape, and will begin interior work on both within the next 6 months.

Website – WPWA’s official website, www.wpwa.org, has been updated to make it easier to use, and able to provide more information to the public. The site contains the full version of the Pawcatuck Watershed Action Plan, a powerpoint presentation on public access to the rivers, results of studies, links to information on drought, and more information.

c. Recreational Programs

Public River Access – WPWA continues to make public access to the rivers a top priority. In 2002, WPWA received a commitment from RIDOT for TEA-21 enhancement funds to improve the Wood River access at Switch Road in Hope Valley. Also this year, a property owner has pledged a donation of land on the Ashaway River, just above the Pawcatuck, to establish a public access. WPWA has received grant funds from the Small Craft Access Trust in the amount of \$10,000 for the project, and we are working with RIDEM Fish and Wildlife to identify additional funding sources. WPWA also received Materials Only Grants totaling \$2,400 from the RI Trail Advisory Committee to improve two existing access sites on the Wood River, and to clear passage along obstructed river trails along the Wood and Pawcatuck. WPWA has provided the projects to local scout troops as opportunities for Eagle Scout community service projects.

April Litter Awareness Month – To discourage the presence of litter, WPWA sponsors two popular annual programs. The first is the annual Opening Day in the Watershed litter-awareness program, co-sponsored by Bess Eaton, during which 20 volunteers serve free coffee from 6-10am at 6 popular fishing sites to fishers carrying reusable coffee mugs. The second, our annual Earth Day river access cleanup, draws 60 volunteers who tackle one-half ton of trash at

26 popular river access sites in the watershed. This summer WPWA also organized a cleanup at Ashville Pond, where volunteers removed hundreds of pounds of debris, as well as about 30 tires.

June Rivers Month – WPWA celebrates RI Rivers Month with a Source to Sea canoe that explores the river corridor from start to finish over four Saturdays in June. On Rivers Day itself, WPWA joins forces with our fellow South County watersheds to offer free programs, offering that week's paddle free of charge. Also that day a special paddle for RI State Legislators is held concurrently with a luncheon and opportunity to promote our recreational resource to our top decision makers (Westerly).

July Learn to Fish Month – Thirty-six children from 2 to 15 years old learned to fish at the Carolina Trout Hatchery Aquatic Education Pond in July, co-sponsored by RI DEM Aquatic Education Program. Four youths also took part in a Beginner's Fly Tying Class at the WPWA campus.

Summer River Explorations – ten weekly sessions of kayak instruction and aquatic exploration were hosted for over 150 youths from Roger Williams Park Zoo Camp, and the Norman Bird Sanctuary. In addition, 20 students from Hope High School and Brown University, part of the River of Words Program, took a paddle tour of the upper Wood River. Two additional staff-led river trips rounded out this season's offerings.

III. Pawcatuck Watershed Action Plan for 2002-2003

According to the schedule of implementation for the action plan, the strategies and activities outlined under Objective 3 will be among the priorities for 2002 to 2003, specifically with regard to water allocation policy development. WPWA is in the process of a year-end review of the action plan, and will make updates and adjustments for 2003-2004.

Objective 3: Water quality should be protected and water should be allocated equitably during drought periods, with adequate provision for habitat protection.

Strategy 3.1: Estimate a water budget for all aquifers at full buildout.

Activities:

- 3.1.1 Create and maintain current parcel-level GIS coverages for all towns in the watershed.
- 3.1.2 Use these coverages to conduct a buildout analysis based on current local and state land use regulations.
- 3.1.3 Utilizing the HSPF model and habitat assessment data from the Queen's River pilot study, determine the flow levels necessary to support aquatic ecosystems.
- 3.1.4 From the buildout analysis results and the flows required for ecosystem maintenance, estimate a water budget for each sub-basin.

Strategy 3.2: Encourage and provide incentives to towns to plan for growth to protect the quality and quantity of groundwater.

Activities:

- 3.2.1 Where the water budget predicts a water shortfall during dry periods at buildout, revise comprehensive plans and land use regulations appropriately to reduce estimated water demand to a sustainable level.
- 3.2.2 Review/Revise/Adopt effective groundwater protection overlay districts where indicated by soil permeability.
- 3.2.3 Implement the provisions of these overlay districts.

Strategy 3.3: Manage use of water in dry periods in an equitable manner, so that essential needs are met and habitats are not seriously impacted.

Activities:

- 3.3.1 Prepare drought management plans at a water-supply system level.
- 3.3.2 Put in place a public information system to give timely notice of necessary water use restrictions.
- 3.3.3 Develop a water use management plan.

IV. Overview of the Status of the Watershed

RIDEM's Land Acquisition report for FY-2001-02 tells us of the following significant acquisitions within the watershed either by agricultural land preservation, conservation easement, or fee simple purchase: the Kenyon Farm 172-acre acquisition in South Kingstown, the Silver Farm 70.4 acres in Westerly, the property of Hopkinton Associates 180.9 acres in Hopkinton, Tucker Farm 55.44 acres in Richmond, and the Koszela Property 69.85 acres in Exeter, the A.P.L. Realty Property 160 acres in Hopkinton, and assorted additional properties totaling over 16 acres. All together this represents an additional 725 acres of protected lands within the Pawcatuck Watershed, 25% of the total acreage acquired statewide.

Information on the status of the watershed as classified by the state can be found in the "Rivers Policy and Classification Plan," Jan. 1998, as follows:

The Wood-Pawcatuck Watershed continues to be Rhode Island's premier fresh water recreational resource. The watershed boasts 53 miles of canoeable river, over 30 fresh water ponds for recreational fishing, and many miles of maintained hiking trails. The primary objective in the management of the watershed is to preserve its quality in this regard. A second objective is to maintain habitat quality, and a third critical objective is to preserve the high quality of groundwater in its sole-source aquifer system. A further objective is to preserve agriculture within the watershed, which has been declining steadily for more than a century.

For the most part, water quality throughout the watershed is good to excellent. However, there are areas where it is degraded and segments where it is threatened, especially by development. Point source discharges do limit swimming uses in the specific areas in the vicinity of discharge points.

The Wood-Pawcatuck River system is divided into 32 segments classified as follows:

Pristine Segments – pristine sections of the watershed include headwaters to both the Wood and Pawcatuck Rivers and various ponds and river segments. Parris Brook and the Falls River, the Flat River, Wood River and Breakheart Brook, all feeding the Wood, are classified pristine. Historic Long, Ell, and Blue Ponds and their headwaters, as well as Lock, Fisherville and Queens Fort Brooks above and into the Queen's, share pristine status. Feeding Worden's Pond and the Pawcatuck: lower Chipuxet River, and two upper stretches of the Pawcatuck, the Ashaway River and Tomaquag Brook share pristine classification.

Recreational Open Space – the majority of the watershed's ponds, rivers and brooks are designated recreational. Ponds include Boone Lake, Wincheck and Locustville Ponds, Tucker Pond, Ashville Pond, Worden's Pond, Hundred Acre and Thirty Acre Pond, Yawgoo and Barber Ponds, Watchaug Pond, and Chapman Pond. River segments include the Wood River from Barberville to 138, and from Brushy Brook to Alton; the Usquepaug River to Chickasheen; the Chipuxet river from Taylor's Landing; the Beaver River; the Pawcatuck River from Usquepaug to Kenyon, and from Route 91 to Bradford. Among the recreational brooks feeding the Wood are Roaring Brook and Brushy Brook, and Canonchet Brook. Feeding the Pawcatuck: Meadow Brook and Chickasheen Brook, Poquiant Brook, Aguntaug Brook and Alewife Brook.

Two segments of the Pawcatuck are classified *recreational open space*, however activity is limited to non-contact. These are the segments immediately downstream of the operational mills at Kenyon and Bradford, and in the vicinity of landfill at Chapman Road in Westerly. In 2001, both Kenyon Industries and Bradford Dyeing Association renewed their RIPDES permits with R.I. Department of Environmental Management.

Recreational Multiple Use – the Wood River from Route 138 in Hope Valley to Brushy Brook runs through an historic village center, its banks dotted with historic homes and antiquated septic systems, an auto repair facility, and commercial businesses. This segment has a public fishing access, and is often the victim of littering.

Water Supply – the watershed’s lone designated surface water supply is Yawgoog Pond, which serves Camp Yawgoog with potable water. Yawgoog Pond is also suitable for swimming and other contact recreational activities.

Working – there are no river segments or ponds in the Pawcatuck watershed classified as working.

V. Watershed Council Funding Report

FY02 Appropriation to Pawcatuck Watershed Council Budget Report

Pawcatuck Watershed Council 7-1-2001 to 6-30-2002

PERSONNEL	Budget	Actual	Balance
Executive Director Salary	5000	5000	
Program Director Salary	1500	1500	
Payroll taxes	325	325	
PROGRAM			
Travel	50	50	
Supplies	250	250	
Printing and Copying	500	500	
Utilities	650	650	
Postage	225	225	
EQUIPMENT			
Data Logger (partial cost)	1500		1500
TOTALS	10000	8500	1500

Leveraging of Additional Revenues

The \$10,000 appropriation from the Rivers Council in 2001, for WPWA's work as watershed council, was instrumental in leveraging a second year of support from the Rhode Island Foundation in the amount of \$20,000. Key to the RI Foundation award was a demonstration of sustainability (in terms of funding) and government support for this role. In its argument for such, WPWA pointed to the state appropriation as an indication of the state's priority for watershed protection and belief in the ability of the Pawcatuck Watershed Council (WPWA) to carry out the mission. This, and the commitment of an additional state appropriation in FY03 for watershed councils, garnered the continued support of the RI Foundation.